

APPENDIX B: PENDING CLAIMS

10. A process for producing a fertile transgenic *Zea mays* plant comprising the steps of (i) bombarding intact regenerable *Zea mays* cells with DNA-coated microprojectiles; wherein said DNA comprises a preselected DNA sequence encoding a *Bacillus thuringiensis* endotoxin, wherein the preselected DNA sequence is adjusted to be more efficiently expressed in *Zea mays* than the native *B. thuringiensis* DNA sequence encoding said endotoxin; (ii) identifying a population of transformed cells comprising said preselected DNA sequence; and (iii) regenerating a fertile transgenic plant therefrom, wherein said DNA is expressed so as to impart insect resistance to said transgenic plant and is heritable.
11. The process of claim 10 wherein the preselected DNA sequence further comprises a selectable marker gene or a reporter gene.
12. The process of claim 10 or 11 wherein the fertile transgenic *Zea mays* plant is generated from transformed embryogenic tissue.
13. The process of claim 12 wherein the cells are derived from immature embryos.
14. The process of claim 10 or 11 further comprising obtaining transgenic insect resistant progeny plants of subsequent generations from said fertile transgenic plant.
15. The process of claim 14 further comprising obtaining seed from one of said progeny plants.
16. The process of claim 10 or 11 wherein the preselected DNA sequence comprises a sequence encoding the HD73 endotoxin of *Bacillus thuringiensis*.
17. The process of claim 10 or 11 wherein the preselected DNA sequence comprises a sequence encoding the HD1 endotoxin of *Bacillus thuringiensis*.
18. The process of claim 10 or 11 wherein the preselected DNA sequence comprises a sequence encoding the DH1 endotoxin of *Bacillus thuringiensis*.
19. The process of claim 10 or 11 wherein the preselected DNA sequence comprises a promoter.
20. The process of claim 19 wherein the preselected DNA sequence further comprises a promoter operably linked to said DNA sequence encoding said endotoxin and a promoter operably linked to said selectable marker gene.
21. The process of claim 11 wherein the selectable marker gene confers resistance or tolerance to a compound selected from the group consisting of hygromycin, sethoxydim, haloxyfop, glyphosate, methotrexate, imidazoline, sulfonylurea, triazolopyrimidine, s-triazine, bromoxynil, phosphinothricin, kanamycin, G418, 2,2-dichloropropionic acid and neomycin.
22. The process of claim 21 wherein the compound is phosphinothricin.

23. The process of claim 11 wherein the compound is kanamycin.
24. The process of claim 11 wherein the compound is hygromycin.
25. The process of claim 10, 11, 16 or 17 wherein the DNA encoding said endotoxin comprises an increased number of maize preferred codons.
26. The process of claim 11 wherein the DNA encoding the *Bacillus thuringiensis* endotoxin is fused in frame with said selectable marker or reporter gene.
27. The process of claim 18 wherein the truncated *Bacillus thuringiensis* endotoxin comprises about the N-terminal 50% of the endotoxin.
28. The process of claim 10 wherein the preselected DNA further comprises a protease inhibitor.
29. The process of claim 19 wherein the preselected DNA further comprises the maize Adh1S first intron or the maize *Shrunken-2* first intron positioned between the promoter and the DNA encoding said endotoxin.
30. The process of claim 19 wherein the preselected DNA sequence further comprises a manopine synthase promoter, a nopaline synthase promoter or an octopine synthase promoter.
31. The process of claim 19 wherein the promoter is the CaMV 35S or 19S promoter.
32. A population of plants obtained by breeding the transgenic plants of claim 10 wherein the preselected DNA sequence is transmitted by Mendelian inheritance through both male and female parent plants.